01-18-08

FAX MEMORANDUM

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SUBJECT: US PATENT APPLICATION 10/691,821

DATE: January 17, 2008

I am writing this letter in hopes that you will reconsider the claims that you denied in my air cushion control system patent application (# 10/691,821). You indicated you feel these claims are obvious and are already patented under JAY and JOHNSON. The claims I submitted have not been covered by JAY or JOHNSON or anyone. My claims are totally new and have been brought about after years of research and development and financial commitment. Jay does not teach about distances, and Johnson does not teach about solid support inserts in an air cushion or air sensor chamber. These are just not included in either patent.

I would greatly appreciate your revisiting these claims. After that, I am sure you will see that JAY and JOHNSON patents do not cover any of the claims you have rejected. (I have attached the foll`owing data for clarification.)

Thank you for your attention to this matter. I apologize for being tardy with this letter. I have been very ill for months and had to put things on hold. Thankfully, now I'm feeling better.

These claims are very important. They are the very foundation of a product that will help hundreds who might otherwise live with the agonies of bedsores.

IN DEFENSE OF MY CLAIMS

JAY'S PATENT CLAIMS (# US4726624)

You indicate that my air sensor chamber is not patentable in view of Jay's patent #US4726624. You say that I do not teach that the distance from the edge of the air chamber sensor to an end of the channel wall does not exceed one half of the distance between the channel walls. You say that Jay teaches this, and Graebe is silent about it. Jay does not treat this area at all. I am not silent about this. It is clearly delineated within the patent application and claims.

If one reads the Jay patent, in the beginning part in claim 2, Jay indicates **"that the pad is segmented adjacent to the front portion to restrict flow of filling material into said front portion".**

In the 3rd claim, the Jay patent states that **"the pad is segmented adjacent to the sides to restrict flow of material into said side portion".**

In claim 4, the Jay patent indicates that the rearward portion of the pad," **or the area of the pad beneath the ischial tuberosities is essentially free of segments".**

In claim 5, the Jay patent states that the" **filling material is a viscous liquid which flows gradually when pressure is applied, but substantially maintains its shape and position in absence of pressure".** Without some internal pressure, air will not hold its shape and position like a gel substance will. My air sensor chamber is used with air and not gel.

In claim 9, Jay states that the cushion is **"fabricated from an extensible elastomeric material".** My air chamber is not fabricated from an elastomeric material.

In claim 10, Jay states that **"said pad includes lateral extensions which extend beyond the rims of said tray".**

In claim 11, Jay claims that **"the envelope of said pad is at least 25% wider than the width of the tray".** My air sensor chamber is not wider than the tray.

ALL OF THESE CLAIMS differ from the design of the **air sensor chamber** in my Air Cushion Control System. In claim 4, Jay indicates that the rear portion of the pad is essentially free of segments. (If you would fill his pad with air, it would balloon up just like a child's balloon! It wouldn't work!) I have restrictive segments throughout the air sensor chamber to eliminate this to control inflation height.

In claim 10, Jay indicates that the pad includes lateral extensions which "extend beyond" the rims of said tray. Here is where he states that the pad is at least 25% wider than the tray that it sits on. He does not state that the channels in the pad are in a 25% relationship with the other channels in his pad. It only states that his pad is 25% wider than the tray it sits on. Nowhere in the patent is he concerned with consistency in the channel from one end to another. Jay states that in selected areas he wishes to control the flow of material. But in other areas there is no segmentation to control the flow. I state that the air channels in the sensor chamber should be such to control the **flow** and the **expansion** of the air chamber . That is why, at the end of the sensor air chamber, the channels should be no more that 50% in width than the interior channels. This relationship is critical to control the exhausting of air from the air cushion to position the user of the cushion within a ½" clearance from the base of the air cushion (attached to and positioned directly above the air sensor chamber). This design did not come easily. It was determined after many hours and years of research ...and many dollars of investment to pay for hard tooling to build the air chambers.

Jay's patent also states further that once the pad is filled, it is sealed. The filling material stays at a constant volume. This is contrary to the air sensor chamber in my invention wherein the air must be able to enter and exit as needed to control the immersion depth of the individual sitting on the cushion positioned above the sensor pad. My air sensor chamber must be able to expand only to a

predetermined height. This helps control the immersion depth of an occupant sitting on the connected air cushion (located on top of the sensor chamber). By controlling air pressure and expansion (or evacuation) of air in the sensor chamber, the sensors control the air in the seating cushion. This controls the **immersion depth** of the person sitting on the cushion. When you immerse the person into the cushion, the cushion shapes itself to the user's body to distribute weight and minimize pressure on the skin. If the air pressure in the sensor chamber is not sufficient to expand correctly, then the user of the cushion will be bottomed out and an alarm will alert them or a caregiver. The system positions the air cushion user at only a ½" to ¾" clearance under the buttocks and maintains it by adding or removing air automatically. Jay is not involved with any such system.

Jay's envelope (identified in the Jay patent) consists of 2 layers. In the preferred embodiment under the title of THE ENVELOPE, he indicates that the pad should **"have an excess of film or material in the upper surface of the envelope as compared to the overall surface of the tray or the width of the lower surface of the envelope"**. My air sensor chamber is constructed using three identical pieces of material that form the first 3 layers and a fourth layer that forms a pocket on the top layer.

Under the section of "alternate uses," Jay states that the pad can be designed to be adjusted if the pad is to be filled with a gaseous fluid. If the pad were filled with a gaseous fluid, it would provide no stability for the person sitting on it! It would just shape itself into a balloon on one end. Air needs to be restricted to provide stability and control! You continue to say that Jay calls out the relationships of the channels. Jay **does not** call them out anywhere in the patent. My air sensor chamber design and construction is one of the most vital parts of this patent. You continue to say that Graebe is silent about the air chamber's channels. I have called them out in text and in drawings (as illustrated below).

MY PATENT CLAIMS

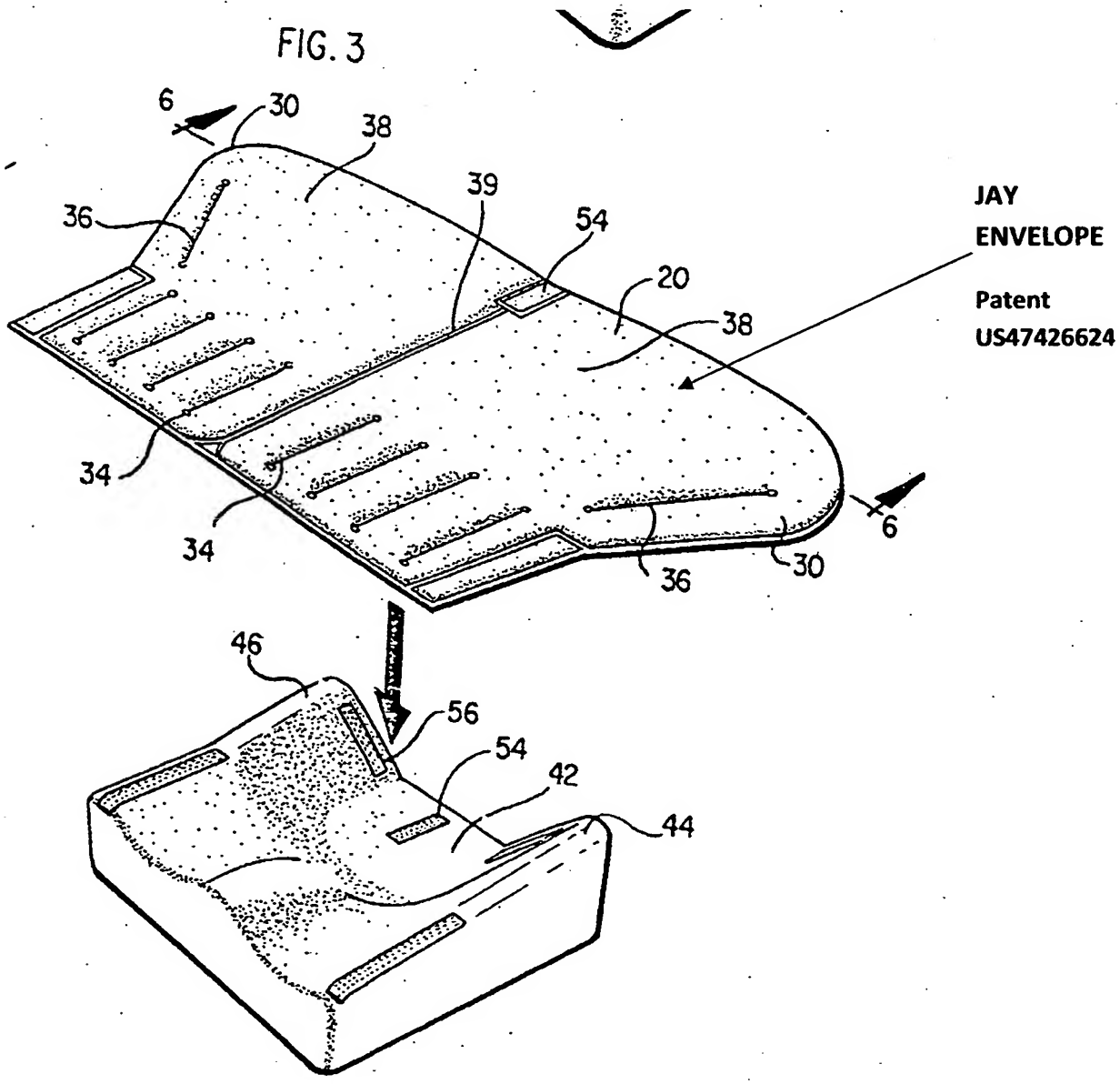
In my claim 24, it is stated **"wherein the air chamber sensor includes an air chamber formed by sealing together two layers of material; wherein channel walls in the air chamber separate the air chamber into multiple air channels; and wherein the distance from an edge of the air chamber sensor to an end of the channel wall does not exceed one half of the distance between the channel walls"**. This is graphically illustrated in my Figure 7. Where "X" and "Y" distances are identified, the" Y" distance is twice the distance of "X." Or two of" Y" add up to one of " X." My Figures 5, 6, and 7 are drawings and are called "the air cushion" and not called an "air sensor chamber." Is this an area that could be causing confusion? The terms "air sensor chamber" and "air cushion" have been used interchangeably in the language of the patent. But there was sufficient clarification in the claims. It can be called a "cushion" or an "air chamber," but its function does not change. However, it is later identified in paragraph 54, as the "air chamber sensor." All these terms are interchangeable in the patent.

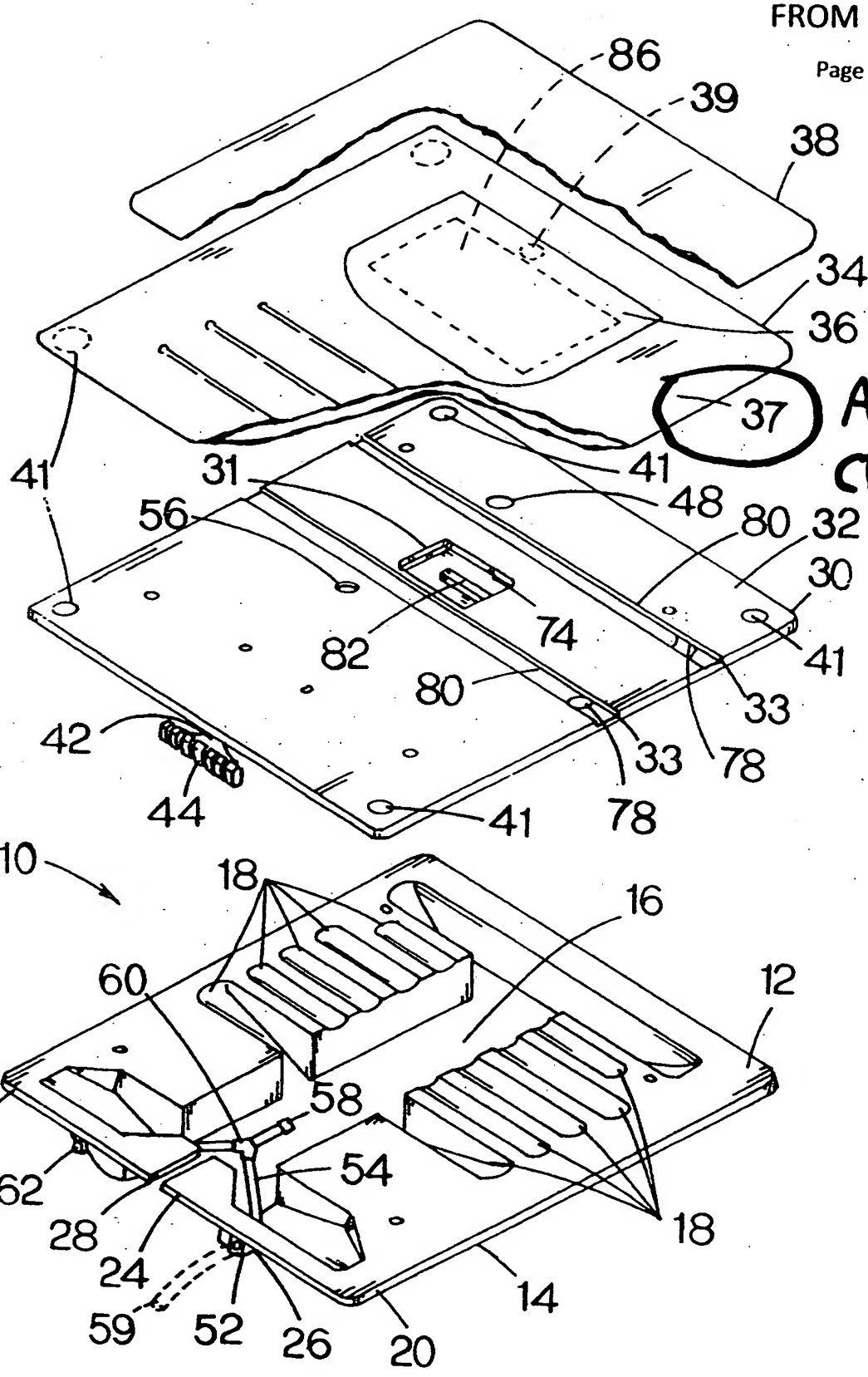
In paragraph 54, Figure 7 states that **"the distance or spacing at the ends of the channel walls 27 to the edge of the air chamber sensor 29 (shown as "y") must be no more than about half the distance between the ends of the channel walls 27 (shown as "X"). Explained another way, the combined distance between the edge of the air chamber sensor 29 and end of channel walls 27 for each side of**

the channel walls 27 will be about equal to the distance that the channel walls are apart from each other (2Y=x)."

All claims related to the air sensor chamber should be allowed. Actually, in my previous patent (5,473,313), the air sensor chamber is similar to the Jay chamber. This is shown in Figure 1 below. This design did not work well because the area under the envelope that holds the sensor board #36 did not have channels in it to constrict the air flow and expansion. It would balloon and would not give accurate adjustments. In essence, I already hold a patent on a unit similar to the Jay envelope, and it did not work properly. That's why this new improvement was necessary.

Below is a graphic comparison between the Jay envelope and my air sensor chamber. You will notice that no indication is noted for the spacing of internal channels in the Jay illustration. Jay's internal channels only extend partially to the rear of the envelope. The Jay envelope also appears to be divided into two separate chambers as identified as #39. Following the Jay illustration, are Figures 1 (from my patent 5,473,313) and figures 7 and 5 from the current application.





AIR Sensor Chamber

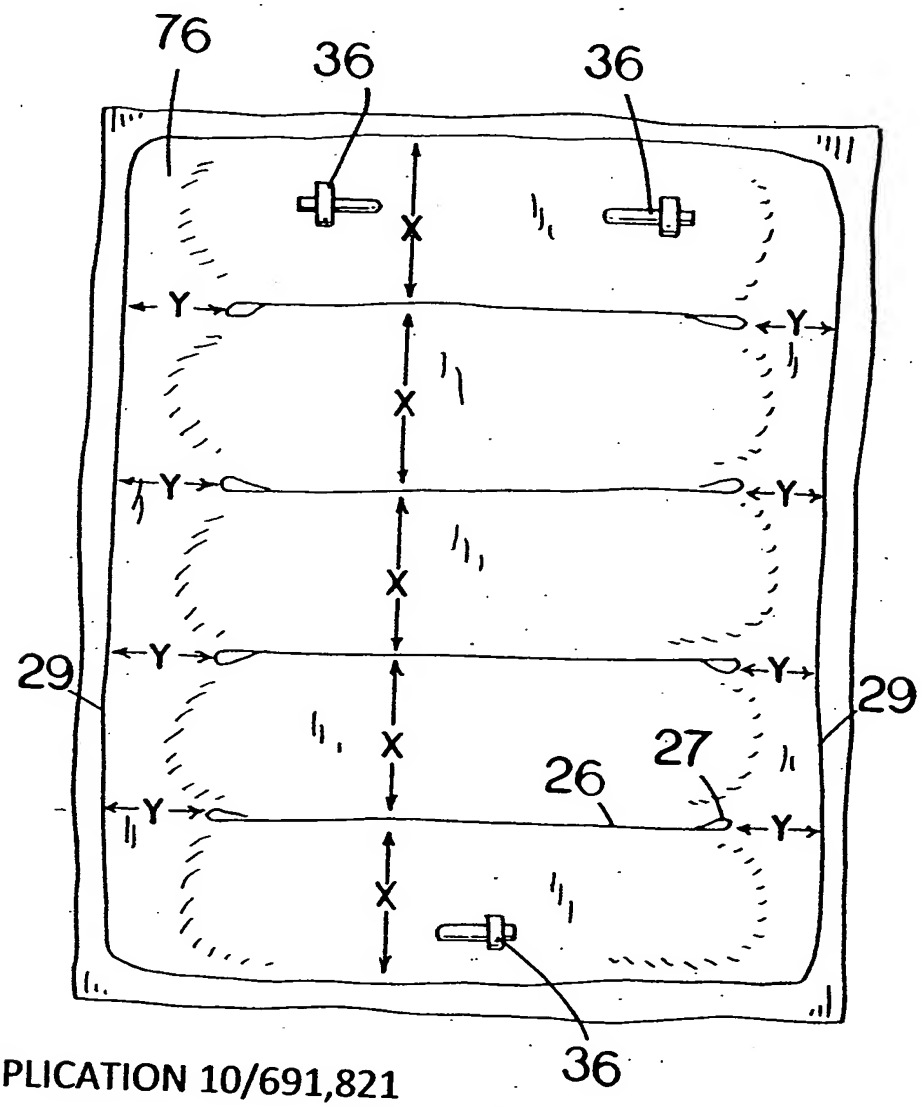
FIG.1.

CURRENT PATENT APPLICATION

(Air Sensor Chamber Design for the Air Cushion Control System)

Shown below in Figure 7 is the underside of my air sensor chamber where "X" and "Y" distances are identified between air channels. Number 36 indicates air connections for entrance and exiting of air. Numbers 26, 27, and 29 show seal lines to form air channels. Letters "X" and " Y" represent the distance between the internal air channels (X=2Y). This drawing was copied from my patent application . Also the air sensor chamber in my patent application consists of 4 layers of material, as shown in Figure 5 below. Two of these layers make the air chamber (74 and 76), and another layer (72) has a fourth layer (24) that contains the pocket that holds the sensor board. A hole (78) shown in figure 5, provides a relief area for air to escape in case of a leak occurring in layer 74.

Figure 5 shows the 3 layers 72,74,76, and the fourth layer 24 which forms a pocket on top of layer 72 that holds a sensor board. Figure 6 shows the bottom side of the air sensor chamber. It clearly illustrates the internal air channels and the connection points that allow air to enter and exit the air sensor chamber as well as the 3 layers that make up the basic air sensor chamber.



FROM GRAEBE APPLICATION 10/691,821

FIG. 7

JOHNSON'S PATENT CLAIMS **(#US5450638)**

You also claim that Johnson teaches supports, but he refers to his supports as an "inflatable support" and as"a cushion." From the Johnson abstract, **"this geometric efficiency causes the cushions to be highly supporting when stretching of the support material is limited. The supports are inflated by moving the stiffened end portions from a horizontal configuration to a vertical one. This causes air to be drawn into the airtight chamber through a valve to form a cushion."**

Johnson seems to use the term "support" as a "cushion." He does not teach supports inside an air chamber.

The supports in my air sensor chamber do not inflate. They are internally positioned within the two layers 74 and 76 of the air sensor chamber. They are mainly made from hard materials such as plastic or rubber. Both Figures 9 and 10 are from the current application and illustrate the Supports 80 & 82 mounted within the air sensor chamber. Both Figures 1 and 2 from the Johnson patent show the support/air cushion in an erected and non-erected state. THERE ARE NO INTERNAL SUPPORTS IN THE JOHNSON PATENT. (See Johnson diagram, Figures 1 and 2.)

From a description of the drawings, as stated in the Johnson patent," **figure 1 from the Johnson patent is a perspective view of a single chamber support in erect, inflated configuration with semi circular end members."** Johnson then uses the word "support" as an air cushion.

From a description of the drawings as stated in the Johnson patent **"figure 2 from the Johnson patent is a perspective of the support in figure 1 in collapsed, deflated configuration."** Johnson's "support" is an air-inflated cylinder. My supports are plastic or other solid materials.

Figures 9 and 10 follow from my current patent application. Figure 9 shows the underside of my air sensor chamber and shows the inserts /supports 80 and 82 within the air sensor channels. Figure 10 also shows the inserts / supports 80 and 82 within the air sensor chamber. There is absolutely no relationship between these and the Johnson patent description of supports. By controlling the width of the strips, these internal inserts/supports form an open air channel within the air sensor chamber. The internal pressures in the air sensor chamber are so low that without someone sitting on the cushion, the air in the sensor chamber will bleed back into the connected cushion due to the weight of the cushion itself. These strips (supports) provide a way of preventing this bleed back. Explaining it another way: You have a flexible air channel. You place a piece of rubber or plastic support inside the channel to prevent its total collapse. These strips (supports) keep the air channel open so that it does not collapse from the cushion's weight. They allow for a quicker interchange of air between the cushion and the air sensor chamber. This limits the time the battery-operated air pump must operate which contributes to longer battery life. They can also function as activation strips by regulating their thickness.

SEAT-RITE: THE AIR CUSHION CONTROL SYSTEM I hope the data above will show you why the claims in question should be allowed. For more information about what my system does, see final page(page 13).

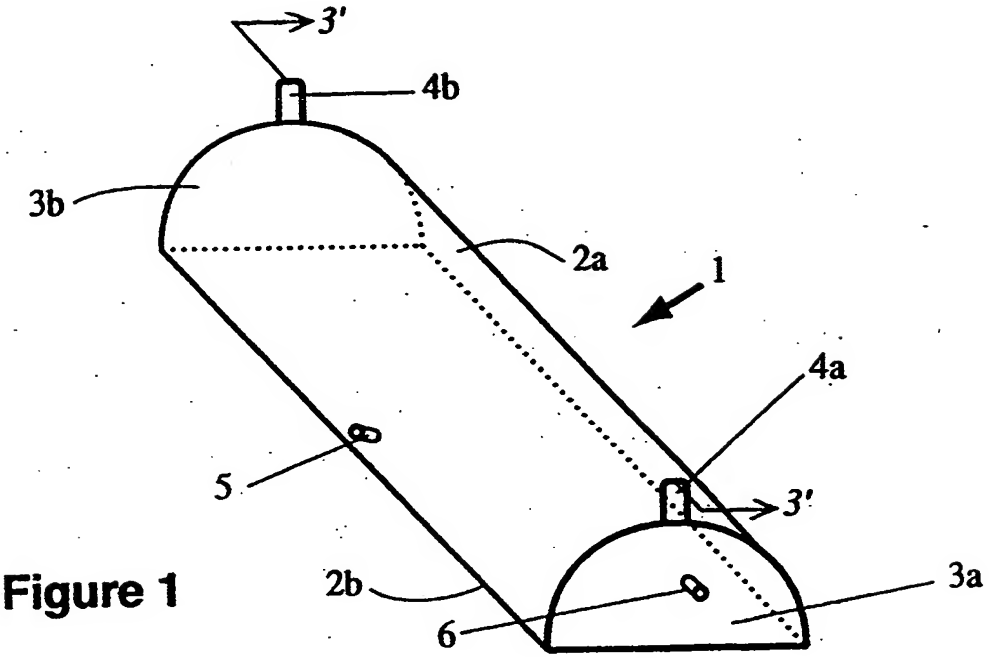


Figure 1

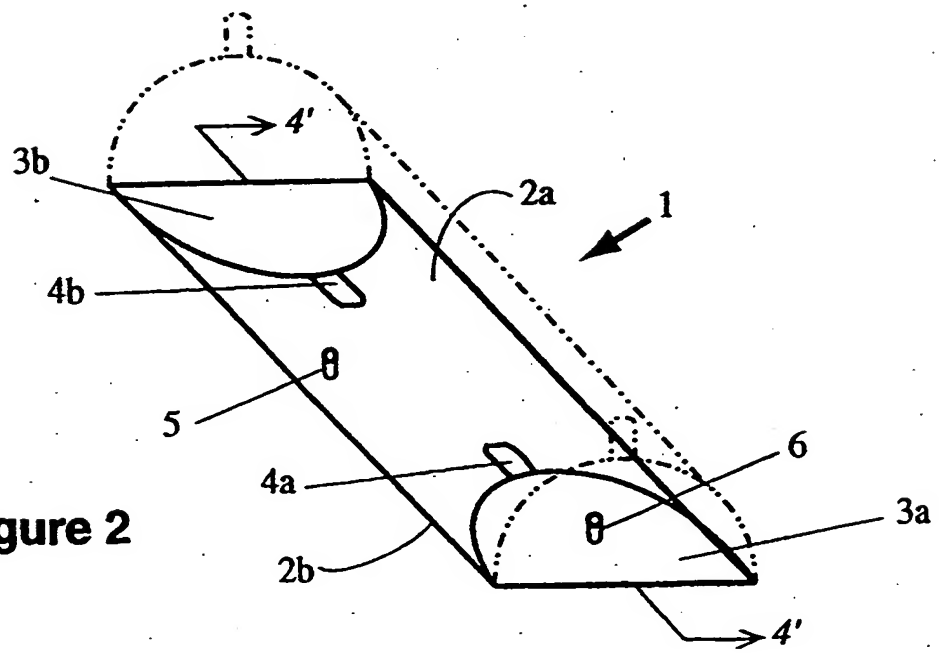


Figure 2

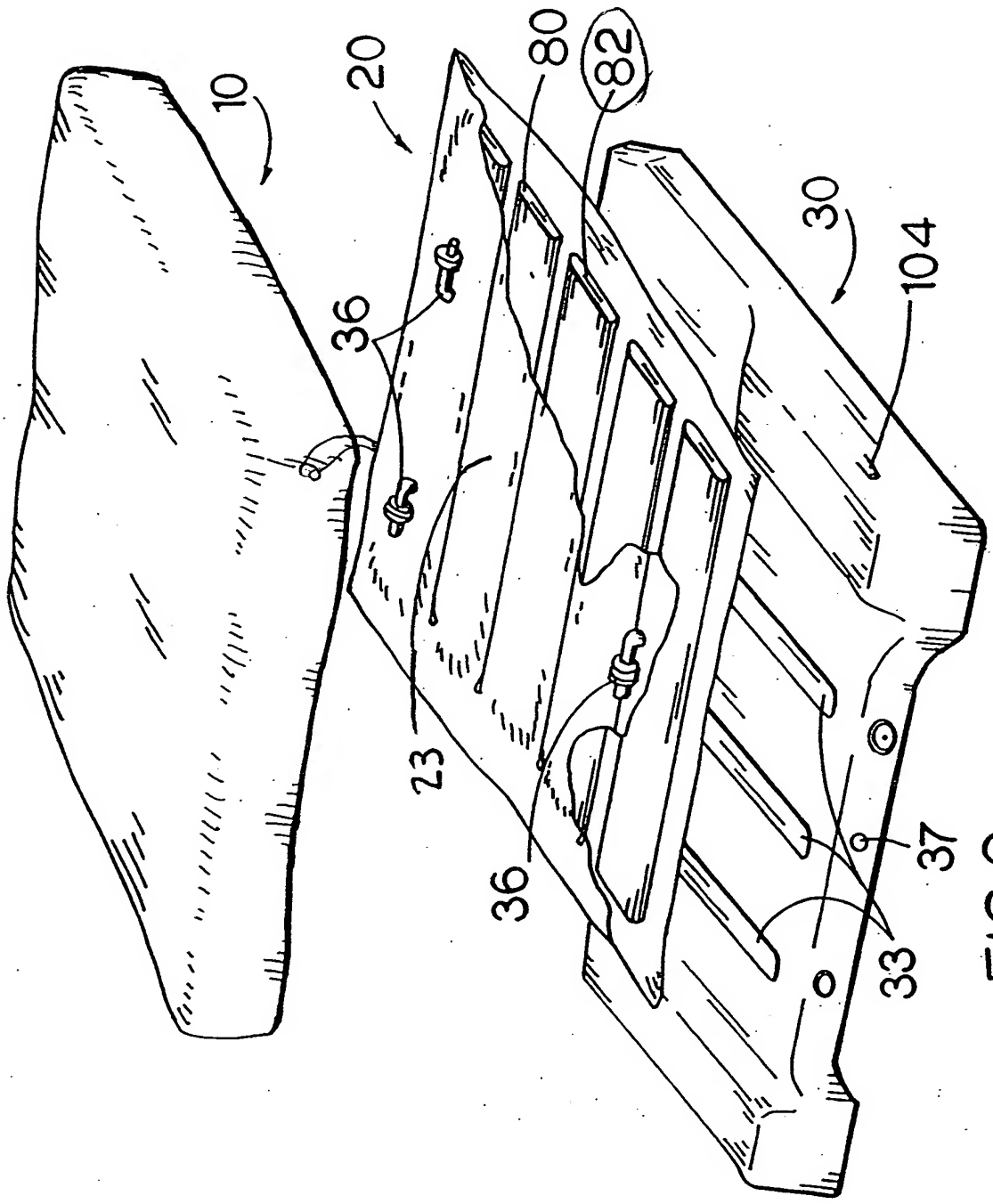


FIG. 9

FROM GRAEBE APPLICATION 10/691,821

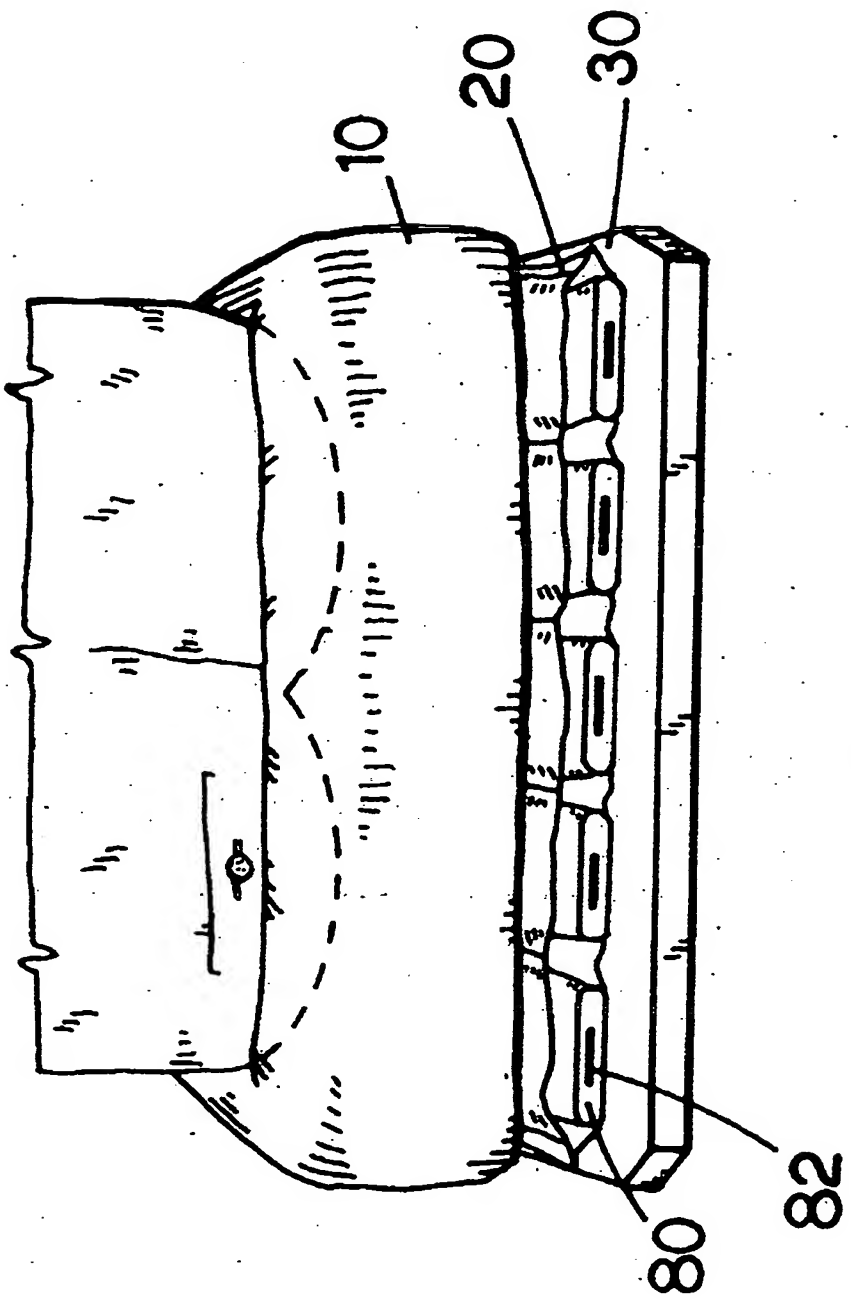


FIG. 10

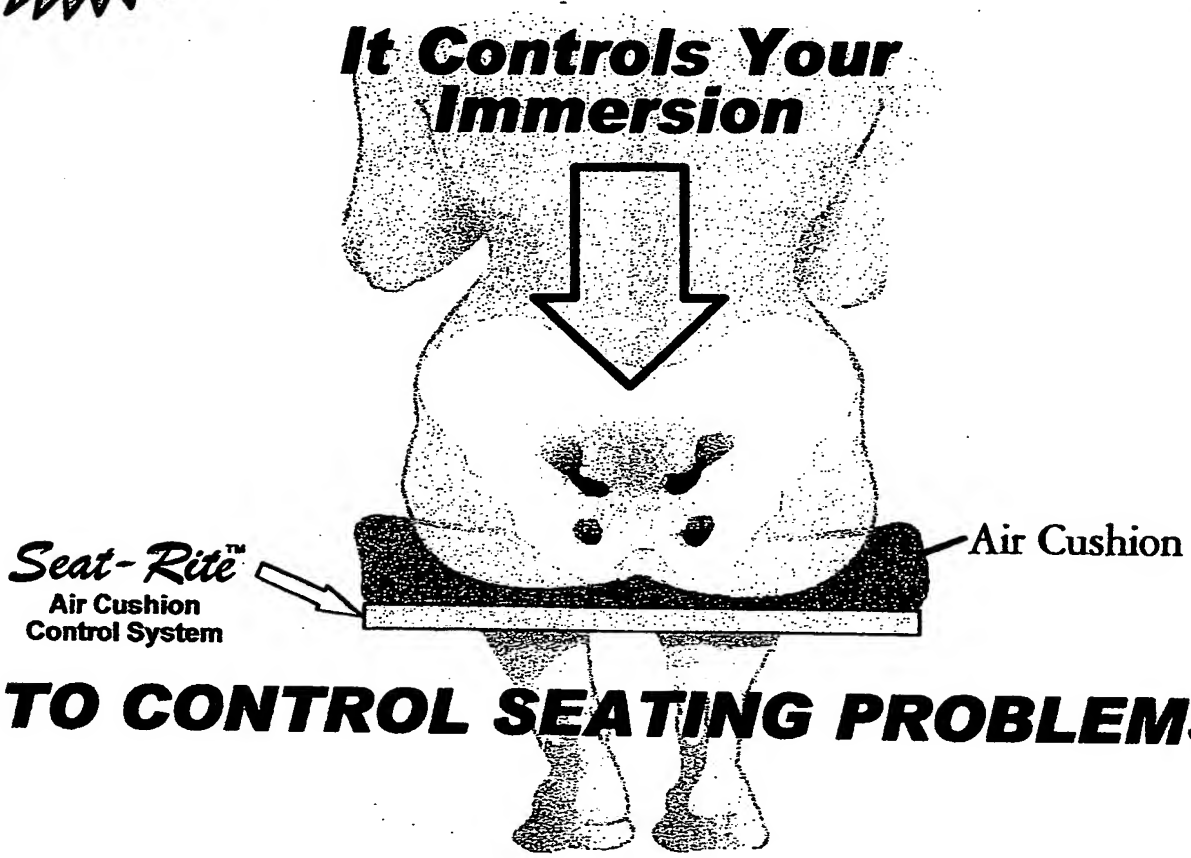
FROM GRAEBE APPLICATION 10/691,821

For Pressure Sore Protection

Wheelchair Users!

Sit Smart with Seat-Rite™!

It Controls Your Immersion



TO CONTROL SEATING PROBLEMS!

Are you worried about your pressure sore protection? Do you wonder if your cushion's adjusted properly? Are you concerned about getting seating problems? Use Seat-Rite with your air cushion for a revolutionary, new approach to safer seating.

How does it work? Just place Seat-Rite under your wheelchair air cushion, connect the two, and push the button! Seat-Rite's "Smart Sensors" give you instant, "personalized" adjustment, allowing approximately 1/2" clearance between the deepest bony prominence and the base of the cushion. This immerses you deeply into your air cushion so your cushion can conform to your individual body shape. The more your cushion conforms to your shape the more your weight is distributed to give you low sitting pressures. Low sitting pressures help prevent pressure sores.

Once your immersion depth is reached, Seat-Rite's "Smart Sensors" maintain it for you. They constantly monitor your seating and positioning to help keep you sitting safely. If changes are needed, they add or release air from your cushion to insure constant immersion depth. If a problem occurs (air leak, overinflation, bottom-out), Seat-Rite's alarms let you know. They even tell you when batteries need replacement!

Seat-Rite's convenient and easy to use. Everything is self-contained. No external wires. No need to check the cushion by hand. No dials to set. No misplaced air pumps. It's all built-in, battery-operated, and automatic. It's designed with your independence in mind. All you have to do is push the button ... and sit "smart."

(Recommended for use with multi-cell, single-valve air cushions)